



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Dairy
Division**

United States Standards for Grades of Dry Whey

Effective October 1, 1990

United States Standards for Dry Whey¹

Definitions

§ 58.2601 *Whey*.

“Whey” is the fluid obtained by separating the coagulum from milk, cream, and/or skim milk in cheesemaking. The acidity of the whey may be adjusted by the addition of safe and suitable pH adjusting ingredients. Moisture removed from cheese curd as a result of salting may be collected for further processing as whey if the collection of the moisture and the removal of the salt from the moisture are conducted in accordance with procedures approved by the Administrator.

§ 58.2602 *Dry Whey*.

“Dry Whey” is the product resulting from drying fresh whey which has been pasteurized and to which nothing has been added as a preservative. It contains all constituents, except moisture, in the same relative proportions as in the whey.

U. S. Grade

§ 58.2603 *Nomenclature of U.S. grade*.

The nomenclature of the U.S. grade is U.S. Extra.

§ 58.2604 *Basis for determination of U.S. grade*.

The U.S. grade of dry whey is determined on the basis of flavor, physical appearance, bacterial estimate, coliform, milkfat content, and moisture.

¹Compliance with these standards does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

§ 58.2605 *Requirements for U.S. grade.*

(a) *U.S. Extra.* U.S. Extra Grade dry whey conforms to the following requirements:

(1) *Flavor* (applies to the reliquefied form). Shall have a normal whey flavor free from undesirable flavors, but may possess the following flavors to a slight degree: Bitter, fermented, storage, and utensil; and the following to a definite degree: feed and weedy.

(2) *Physical appearance.* Has a uniform color, and is free flowing, free from lumps that do not break up under slight pressure, and is practically free from visible dark particles.

(3) *Bacterial estimate.* Not more than 50,000 per gram standard plate count.

(4) *Coliform.* Not more than 10 per gram.

(5) *Milkfat content.* Not more than 1.50 percent

(6) *Moisture content.* Not more than 5.0 percent.

§ 58.2606 *Basis for acidity classification.*

Acidity classification is not a U.S. grade requirement. Acidity classification will be made available only upon a U.S. graded product and the results will be shown on the grading certificate. The dry whey will be classified for acidity as follows:

(a) *Dry sweet-type whey.* Dry whey not over 0.16 percent titratable acidity on a reconstituted basis.

(b) *Dry whey _____ % titratable acidity.* Dry whey over 0.16 percent, but below 0.35 percent titratable acidity on a reconstituted basis. The blank being filled with the actual acidity.

(c) *Dry acid-type whey.* Dry whey with 0.35 percent or higher titratable acidity on a reconstituted basis.

§ 58.2607 *[Reserved]*

§ 58.2608 *Optional tests.*

There are certain optional requirements in addition to those specified in section § 58.2605. Tests for these requirements may be run occasionally at the option of the Department and will be run whenever they are requested by an interested party. These optional requirements are as follows:

(a) *Protein content ($N \times 6.38$).* Not less than 11 percent.

(b) *Alkalinity of ash (sweet-type whey only).* Not more than 225 ml. of 0.1 N HCl per 100 grams.

(c) *Scorched particle content.* Not more than 15.0 mg.

§ 58.2609 *U.S. grade not assignable.*

(a) Dry whey which fails to meet the requirements of U.S. Extra Grade shall not be assigned a U.S. grade.

(b) Dry whey which fails to meet the requirements of any optional test, when tests have been made, shall not be assigned a U.S. grade.

(c) Dry whey produced in a plant found on inspection to be using unsatisfactory manufacturing practice, equipment, or facilities, or to be operating under unsanitary plant conditions shall not be assigned a U.S. grade.

§ 58.2610 *Test methods.*

All required tests, and optional tests when specified, shall be performed in accordance with the following methods:

(a) “Methods of Laboratory Analysis,” DA instruction series 918-103-2, 918-103-5, 918-109-2, and 918-109-3, Dairy Grading Branch, Poultry and Dairy Quality Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, DC 20250, or the latest revision thereof.

Explanation of Terms

§ 58.2611 *Explanation of terms.*

(a) *With respect to flavor.*-- (1) *Slight.* An attribute barely identifiable and present only to a small degree.

(2) *Definite.* An attribute readily identifiable and present to a substantial degree.

(3) *Undesirable.* Identifiable flavors in excess of the intensity permitted, or those flavors not otherwise listed.

(4) *Bitter.* Distasteful, similar to taste of quinine.

(5) *Feed.* Feed flavors such as alfalfa, sweet clover, silage, or similar feed.

(6) *Fermented.* Flavors, such as fruity or yeasty, produced through unwanted chemical changes brought about by microorganisms or their enzyme systems.

(7) *Storage.* Lacking in freshness and imparting a “rough” or “harsh” aftertaste.

(8) *Utensil.* A flavor that is suggestive of improper or inadequate washing and sterilization of utensils or factory equipment.

(9) *Weedy.* Aromatic flavor characteristic of the weeds eaten by cows carried through into the dry whey.

(b) *With respect to physical appearance.*--(1) *Slight pressure.* Only sufficient pressure to readily disintegrate the lumps.

(2) *Practically free.* Present only upon very critical examination.

(3) *Free flowing.* Capable of being poured continuously without interruption.

(4) *Lumps.* Loss of powdery consistency but not caked into hard chunks.

(5) *Uniform color.* Free from variation in shades or intensity of color.

(6) *Visible dark particles.* The presence of scorched or discolored specks capable of being seen by the eye.